PENTAIR
JUNG PUMPEN

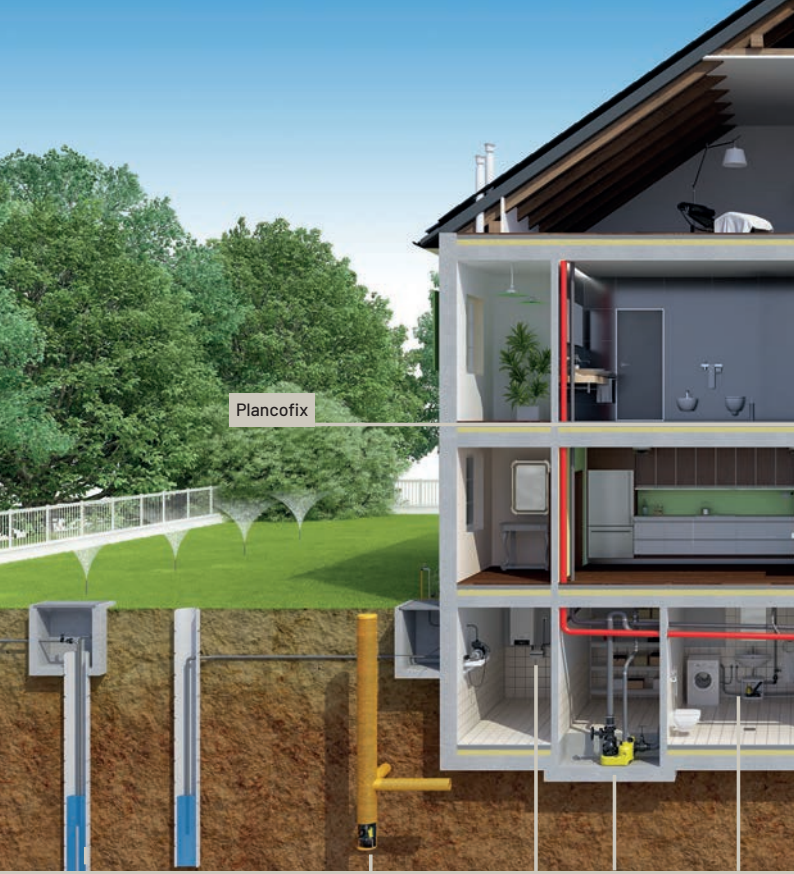
1924 2024

Manual

RESIDENTIAL TECHNOLOGY

Program | Accessories | Tips | Multimedia

JUNG-PUMPEN.COM



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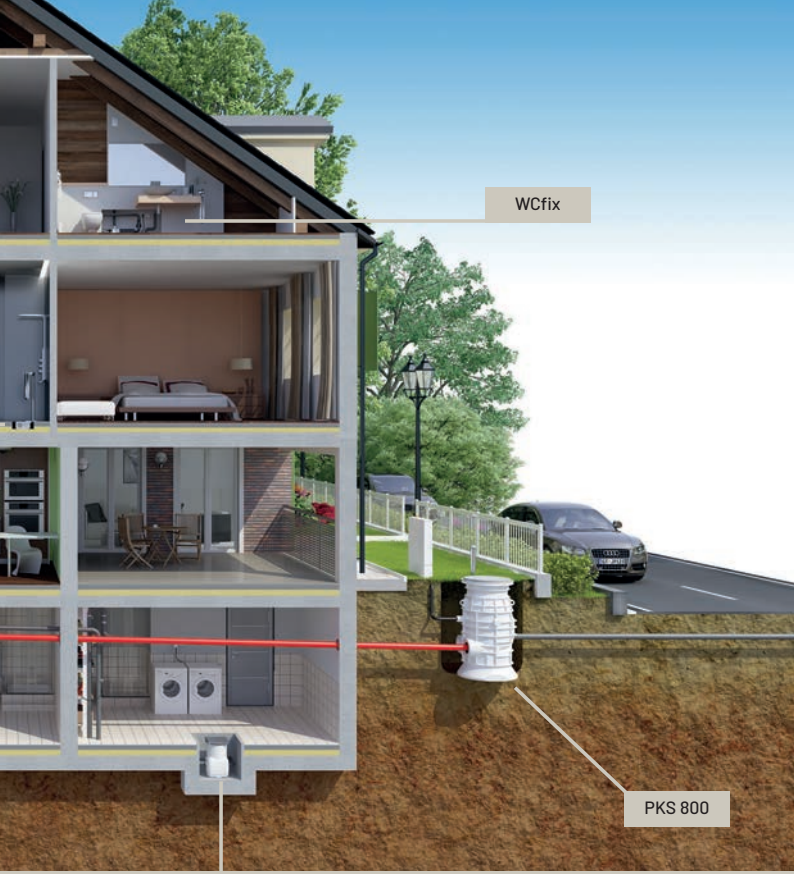


JUNG PUMPEN QUALITY STANDARDS

1. SEALED CABLE INLET

The elaborate encapsulation of the cable inlet with a casting resin meets the most stringent quality standards and ensures a long service life of the product. This effectively prevents water and moisture from penetrating into the motor compartment through capillary action if the cable is subjected to mechanical damage.

2. EIP-TECHNOLOGY

Since a distinguishing feature of the hydraulic system of cellar drainage pumps is that there is generally only a very small gap between the impeller and the wear plate, EIP technology represents a groundbreaking development. The Enlarged Internal Passage, found in pumps such as the U3K(S) and the U5K(S), makes for enhanced operating reliability and consistent performance. The free passage of the U5K(S) and the U6K(S) is variable. It can be enlarged from 10 mm to 20 mm.

3. REMOVABLE STRAINER BASE – LOW LEVEL PUMPING

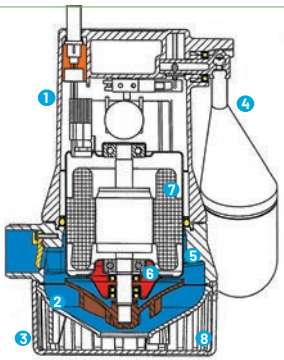
Features that distinguish a branded product include its versatility in use. Cellar drainage pumps and submersible drainage pumps, for example, are designed for both stationary and portable use. In the U3K(S), U5K(S) and the U6K(S), the strainer base can be removed to allow low level pumping down to a height of 5 mm (such as for draining floodwater) in portable use.

4. FLOAT ASSEMBLY

Automatic level control of a stationary submersible pump is generally with a float switch. We use fixed float switches that operate in a clearly defined switching height range and are designed to prevent over-winding.

5. MOTOR COOLING JACKET

The cooling jacket around the motor allows cellar drainage pumps and drainage pumps to be used in continuous operation even if the pump is not submerged. In this case, the motor is cooled by the pumped media.



6. INTEGRATED OIL CHAMBER / SEALS

Our pumps are safe to run dry. The oil chamber integrated in the pumps ensures that the seals are cooled and lubricated and are therefore protected during dry running. Pumps from the US series upwards have an oil chamber that can be inspected, which means that an oil check can become an integral part of any maintenance work. The oil chamber is protected with high-quality seals on both, the media side and the motor side. Starting with the U3K(S) spezial, bi-directional SiC mechanical seals are used on the media side, ensuring that the shaft is fully encapsulated against the pumped media. This allows more aggressive and abrasive media to be pumped.

7. WINDING THERMOSTAT

The thermostat incorporated in the motor winding of the pump works on the principle of a bi-metal and protects the motor from overheating.

8. INTEGRATED FLUSHING DEVICE

Our cellar drainage pumps and submersible drainage pumps are fitted with an integrated flushing device. This can be activated to clean the sump around a stationary pump. By inhibiting deposits in this way, maintenance is easier and odours are reduced.

U3 K + U5 K
CELLAR DRAINAGE PUMPS

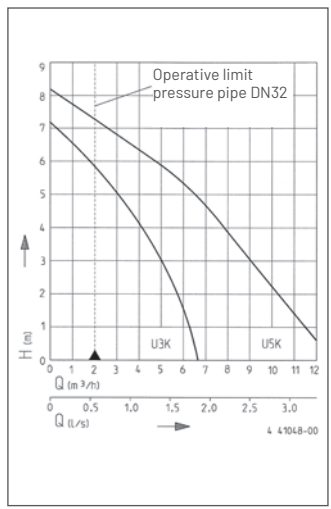
APPLICATIONS

- Lightly polluted water with solids 10 mm
- Grey water
- Aggressive media with the U3 K (S) spezial (e.g. condensates, saline media)

ADVANTAGES

- Continuous operation in emerged state
- Integrated flushing device
- Moisture sealed cable inlet
- Maintenance-friendly especially with guide rail system (U3/U5)
- Hydraulic system with EIP technology
- U5 with 10/20 mm variable free passage

U3 K/U5 K



! TIPS

- Reduce deposits in the sump by activating the pump's integrated flushing device
- Vent the pump by providing a drill hole in the spiral housing. The sump can now remain dry intermittently.
- Use the included swing-type check valve only for portable use! Swing-type check valves for stationary use are available in our range of accessories.
- Accessory:
  Easy installation in a tank with the Easyfix 32 Single and Easyfix 32 Duo installation sets. The sets are ready to plug in. All necessary components are already preassembled on a base plate. Place the set in the tank, connect it to the pressure pipe and attach the selected pump(s).
- Easyfix 32 Duo incl. control unit, which controls the alternating operation of the two pumps.
- Accessory: Connection Kit DN 32 which enables a quick installation to existing pressure pipes. It can be adjusted to any length between 30 and 90 cm.

Video U3

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
U3 K(S)	1 ¼"	7.0	6.5	0.32
U3 K(S) Spezial	1 ¼"	7.0	6.5	0.32
U5 K(S)	1 ¼"	8.5	11.0	0.52

U6K
DRAINAGE PUMPS

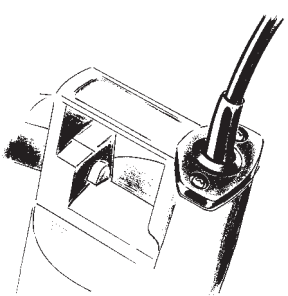
APPLICATIONS

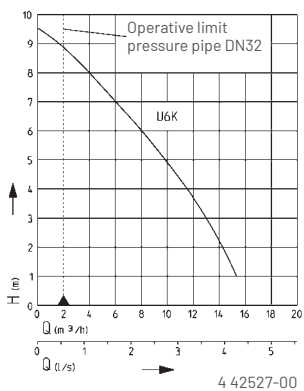
- Grey water from wash-basins, washing machines etc.
- Wastewater and ground-water
- Rainwater, drainage water and seepage water
- Media with abrasive particles
- Silage liquor, liquid fertiliser
- Condensat from gas condensing boilers
- For saline solutions up to 15% salinity

ADVANTAGES

- Replaceable moisture sealed cable inlet
- 10/20 mm free passage
- Variable discharge branch
- Bi-directional SiC mechanical seal
- Maintenance-friendly through guide rail system
- Available in three-phase and single-phase current versions

U6K





! TIPS

If installing a **duplex unit,** please note:

- Each pump must be capable of discharging the full volume of drainage water on its own.
- The pumps are controlled by a common alarm unit. This is the only way to ensure that each of the pumps has an equal workload.
- Ensure that the submersible ball contact switches are positioned correctly:

Base load › alarm › peak load

- This is essential in order to ensure that the alarm is triggered in good time in the event of a fault.
- Accessory: Easy installation in a tank with the Easyfix 32 Single and Easyfix 32 Duo installation sets. The sets are ready to plug in. All necessary components are already pre-assembled on a base plate. Place the set in the tank, connect it to the pressure pipe and attach the selected pump(s).
- Easyfix 32 Duo incl. control unit, which controls the alternating operation of the two pumps.

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
U6K E(S)/D(S)	1 ¼"	9.5	15.5	0.75

EASYFIX
INSTALLATION SETS FOR DRAINAGE PUMPS

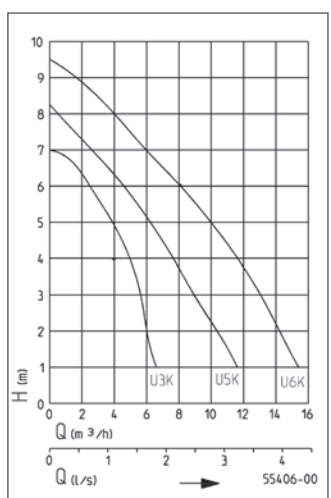
APPLICATIONS

- Pump tanks inside and outside buildings
- Wastewater and rainwater shafts in basements

ADVANTAGES

- Quick and easy installation - high time savings
- Easyfix 32 Duo incl. control unit and alarm
- Ready to plug in
- Guide rail system pro-assembled on the base plate
- Compact design for use in small tanks:
  Single unit 400x300 mm
  Duplex unit 500x500 mm
- Suitable for: U3 KS, U3 KS Spezial, U5 KS and U6 K ES

Easyfix



! TIPPS

- Always use 2 x identical pumps for duplex systems
- Activate the flushing device on the pump to reduce deposits in the tank (e.g. for washing machine wastewater)
- Additional alarm forwarding possible via potential-free contact (Easyfix 32 Duo)
- Low switch-on points in the shaft can be realised using special floats for low switching heights (accessory)
- Different alarm devices available as accessory for the Easyfix 32 Single

Datasheet Easyfix 32

Video

Type	Discharge branch	Hmax (m)	Qmax (m3/h)	P1 (kW)
U3 KS	1 ¼"	7.0	6.5	0.32
U3 KS Spezial	1 ¼"	7.0	6.5	0.32
U5 KS	1 ¼"	8.5	11.0	0.52
U6 K ES	1 ¼"	9.5	15.5	0.75

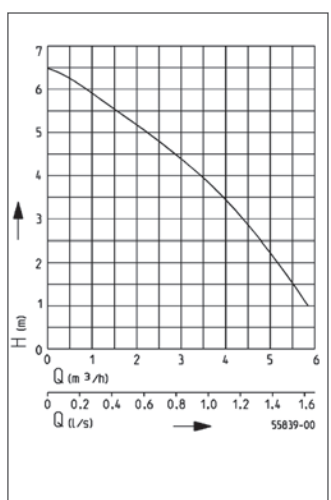
SIMER
SUBMERSIBLE UTILITY PUMP

APPLICATIONS

- Drains flat roofs and patios
- Extracts wastewater from core-hole drilling and concrete cutting
- Pumps out water from flooded cellars
- Drains puddles
- **Simer 6S:** Thanks to the integrated electronic water level sensor, the pump switches on and off automatically

ADVANTAGES

- Removes water down to a level of 2 mm
- Switch-on point starts at a water level of just 5 mm
- Variable 1"/3/4"/1/2" hose connectors for quick connection
- Integrated anti-airlock valve for reliable pump start-up
- Sturdy aluminium housing
- Integrated overload protection



! TIPS

- If used frequently, we would recommend replacing the hose connection provided with a 1¼" quick-connect coupling to save time during commissioning.
- A damaged cable can be replaced easily.
- The swing-type check valve and a stepped hose connector are included in the scope of supply.

Video Simer

Simer 6S version with level control for automatic switching on and off

Easy switching between manual and automatic operation with a switch

Easy release of the strainer foot

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (W)
SIMER 6/6S	1¼"	6.5	6	240

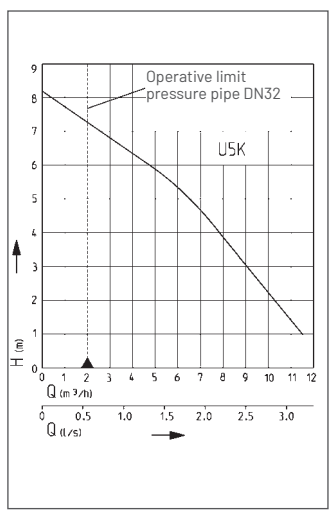
FLUTBOX
FIRST AID KIT

APPLICATIONS

- Cellar drainage in the event of flooding

ADVANTAGES

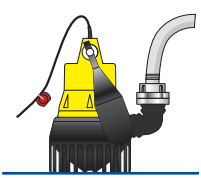
- Quick and easy hose connection with C-coupling
- Motor jacket cooling and thermal protection ensure continuous operation in non-immersed state
- A fixation locks the float switch so that it reaches extremely low residual water levels

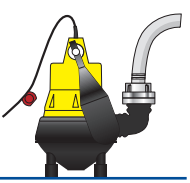


! TIPS

- The U5KS can also be used without its carrying cage. To do so, undo the fastening on the pump handle and lift the pump out.
- The foot strainer on the pump can be removed. This makes it possible to pump water down to an extremely low level.
- To make use of the full 20 mm free passage, remove the foot strainer and insert the extensions provided onto the base feet.

Video Flutbox





Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
U5KS	1 ¼"	8.0	11.5	0.52

FLUTBOX PRO 300

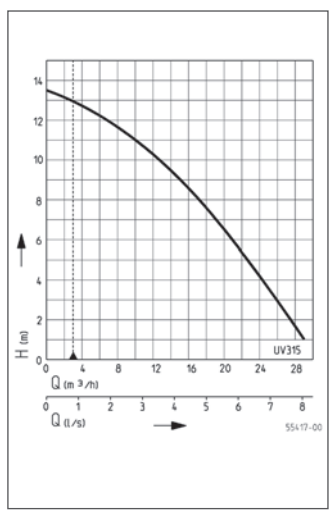
THE PROFESSIONAL SET

APPLICATION

- Powerful wastewater pump Multidrain UV 315-1 S, which eliably pumps up to 28 m^3/h
- For use in flood areas and for emergency management

ADVANTAGES

- Quick and easy hose connection with C-coupling
- Motor jacket cooling and thermal protection ensure continuous operation in emerged mode
- A duplex thermal motor protection switches the pump off when a critical motor temperature is reached
- Tension belt for securing the pump during transport



- The Multidrain UV 315-1 S can also be used without a transport box.
- The intermediate space around the pump's cooling jacket can be easily cleaned from above via the discharge branch to remove any deposits.
- Replaceable, moisture sealed cable inlet.
- With fixed submersible ball contact switch and without transport box, it pumps the rest water down to a residual water level of 20 mm.

Type	Discharge branch	Hmax (m)	Qmax (m3/h)	P1 (kW)
Multidrain UV 315-1 S	1 1/2"	13.5	28.0	1.83

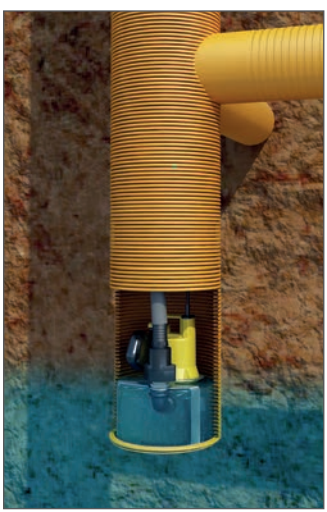
DRAINAGE SET

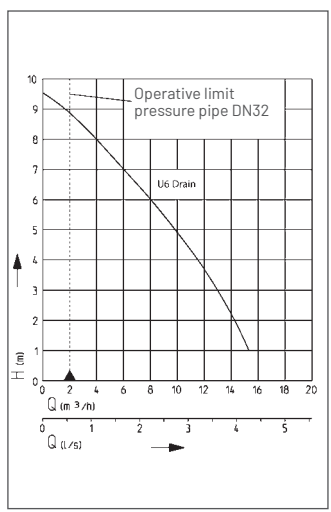
APPLICATIONS

- A special-purpose float switch enables the pump to be fitted in all commercial drainage sumps with a sand trap with a minimum internal diameter of 280 mm and above.
- Media with abrasive particles
- Wastewater and groundwater
- Rainwater, drainage water and seepage water

ADVANTAGES

- Ready to plug in
- Extensive supply package
- Powerful drainage pump
- High-quality SiC mechanical seal
- Manual and automatic operation possible

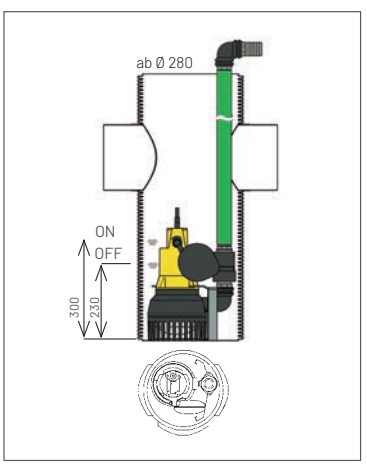




! TIPS

Clean in regular intervals:

› Clean the drainage set regularly if the drainage water has a high iron content. Regular maintenance allows deposits (such as iron ochre sedimentation) to be removed and keeps the pump in good working order.



Animation
Drainage set

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
Drainage set	1¼"	9.5	15.5	0.75

US 62-251
SUBMERSIBLE DRAINAGE PUMPS

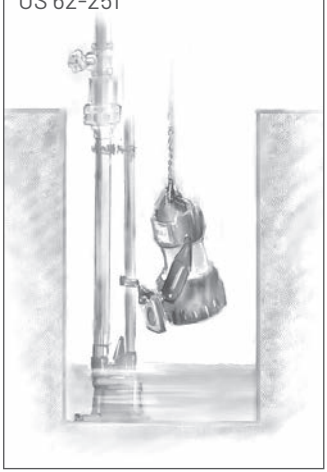
APPLICATIONS

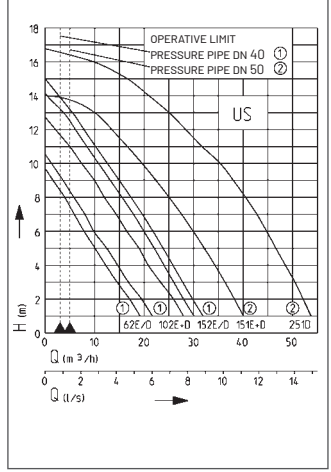
- Grey water from washbasins, washing machines etc.
- Media with abrasive particles
- Wastewater and groundwater
- Rainwater, drainage water and seepage water

ADVANTAGES

- Controllable oil chamber (fully automatic with DKG)
- Bi-directional SiC carbide mechanical seal
- Strainer base with 10 mm free passage
- Maintenance-friendly through guide rail system
- Replaceable moisture sealed cable inlet

US 62-251





! TIPS

- Save time and money on maintenance. Install pumps together with a **guide rail system.**
- Check the direction of rotation of the pump. If the **rotational direction** is correct, the start-up jolt should be in the opposite direction to the arrow on the motor housing.
- When wastewater has a high abrasive content, regular **inspection of the oil chamber** is recommended to allow early detection of damage to the seal on the media side.

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
US 62 E/ES	1½"	9.5	19	0.83
US 62 D/DS	1½"	10.5	22	0.85
US 102 E/ES	1½"	12.5	28	1.37
US 102 D/DS	1½"	12.5	28	1.36
US 152 E/ES	1½"	14.0	30	1.60
US 152 D/DS	1½"	15.0	32	1.70
US 151 E/ES	2"	14.0	40	1.68
US 151 D/DS	2"	14.0	40	1.60
US 251 D/DS	2"	16.5	54	2.60

US 73-253
SUBMERSIBLE DRAINAGE PUMPS

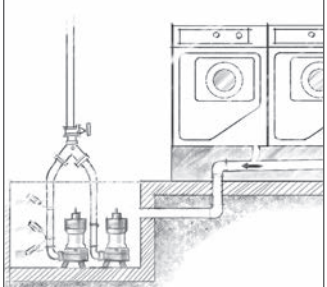
APPLICATIONS

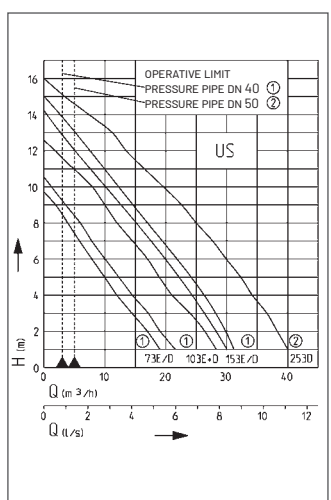
- Water with impurities up to a particle size of 30/40 mm
- Water from laundries
- Media with abrasive particles
- Wastewater and groundwater
- Rainwater, drainage water and seepage water

ADVANTAGES

- Controllable oil chamber
- Bi-directional SiC mechanical seal
- Maintenance-friendly through guide rail system
- Replaceable moisture sealed cable inlet

US 73-253





! TIPS

- Fit an alarm system! This will allow the operator to react quickly if the need arises and prevent any further consequences.
- When wastewater has a high abrasive content, regular inspection of the oil chamber is recommended to allow early detection of damage to the seal on the media side.
- Seal wear on the media side is automatically reported if a seal leak detector is fitted. This allows maintenance to be carried out early, which can extend the lifetime of the pump.

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
US 73 E/ES	1½"	9.5	19	0.83
US 73 D/DS	1½"	10.5	22	0.85
US 103 E/ES	1½"	12.5	28	1.37
US 103 D/DS	1½"	12.5	28	1.36
US 153 E/ES	1½"	14.0	30	1.60
US 153 D/DS	1½"	15.0	31	1.70
US 253 D/DS	2"	16.0	40	2.60

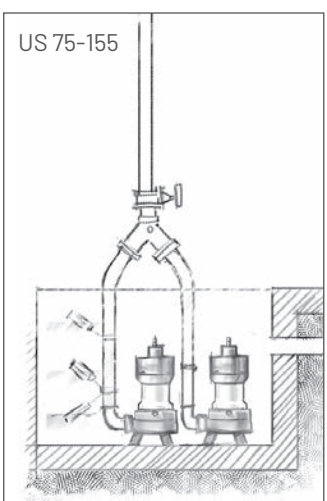
US 75–155
SUBMERSIBLE DRAINAGE PUMPS

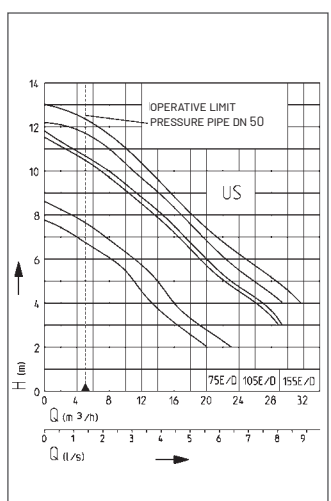
APPLICATIONS

- Water with impurities up to a particle size of 50 mm
- Media with abrasive particles
- Wastewater and groundwater
- Rainwater, drainage water and seepage water

ADVANTAGES

- High operating reliability through large free passage
- Controllable oil chamber
- Bi-directional SiC carbide mechanical seal
- Maintenance-friendly through guide rail system
- Replaceable moisture sealed cable inlet





! TIPS

- In stationary applications of US pumps, the sump can be kept cleaner by drilling a **hole** at the marked spot underneath the pump.
- Removing the **vent screw** in the pump housing will allow the pump to operate trouble-free in sumps that could intermittently run dry. Any air trapped inside the pump will escape automatically when the pump starts up.

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
US 75 E/ES	2″	7.5	20	0.83
US 75 D/DS	2″	8.5	23	0.85
US 105 E/ES	2″	11.5	28	1.37
US 105 D/DS	2″	11.5	29	1.36
US 155 E/ES	2″	12.0	29	1.60
US 155 D/DS	2″	13.0	31	1.70

US 73-103 HE/HES + EX
SPECIAL PUMPS

APPLICATIONS

Hot water pumps
US 73-103 HE/HES

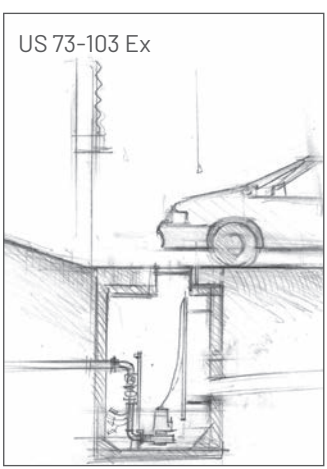
- Water up to 194°F (90°C)
- Hot water from commercial uses
- Hot water from communal washing installations

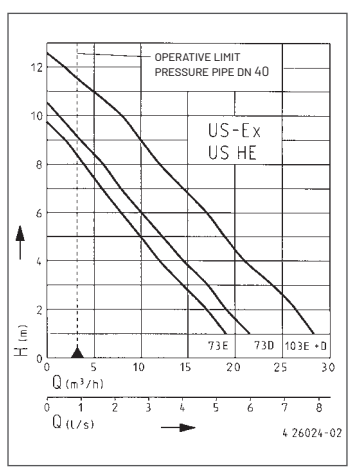
Ex explosion protected pumps
US 73-103 Ex

- Wastewater from areas with parked vehicles
- Wastewater from sumps connected to the public sewer system

ADVANTAGES

- Controllable oil chamber
- Bi-directional SiC mechanical seal
- Large free passage
- Replaceable moisture sealed cable inlet





! TIPS

HE pumps (hot water):

› Fitting a **guide rail** significantly reduces the risk of injury through the inflow of hot water!

Ex pumps:

› When selecting the level controls, note that the control circuits (e.g. for submersible ball contact switches) must also be intrinsically safe in compliance with **explosion-protection regulations.**

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
US 73 HE/HES	1½"	9.5	19	0.83
US 103 HE/HES	1½"	12.5	28	1.37
US 73 E Ex	1½"	10.0	18	0.83
US 73 ExD	1½"	10.5	21	0.85
US 103 ExE	1½"	12.5	28	1.37
US 103 ExD	1½"	12.5	28	1.36

MULTIDRAIN UV 3

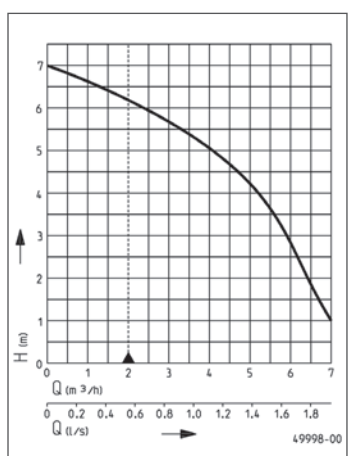
SUBMERSIBLE DRAINAGE PUMPS IN STAINLESS STEEL

APPLICATIONS

- Wastewater and groundwater with solids up to a particle size of 10 mm
- Particularly suitable for mobile use
- With close-fitting float (SF version) for narrow tanks from Ø 22 cm
- Flat suction to 5 mm residual water level by removing the strainer foot

ADVANTAGES

- Discharge branch: 1 1/4" vertical
- Motor jacket cooling avoids overheating of the motor during surfaced operation (S1)
- Replaceable, moisture sealed cable inlet
- Media temperature 35 °C, short term 70 °C (10 min.)



! TIPS

- Keep the tank clean! Unscrew the red plugs on the underside of the pump to activate the automatic flushing device (remove the strainer foot first).
- The enclosed swing-type check valve is placed between the discharge branch and the hose connection and prevents water from flowing back through the hose after the pumping process. Please note that this type of swing-type check valve is only approved for transportable use! Swing-type check valves for stationary use can be found in the accessories programme.
- Perfect accessories for installation in the tank: DN32 connection set with telescopic pressure pipe for stepless connection to an existing pressure pipe.

Video
Multidrain UV 3

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
Multidrain UV3, UV3 S, UV3 SF	1 ¼"	6.0	7.0	0.34

S with built-in level control, SF with close-fitting float

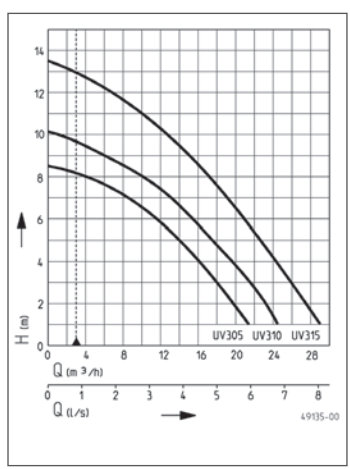
MULTIDRAIN UV 300
SUBMERSIBLE DRAINAGE PUMPS

APPLICATIONS

- Sewage and ground water with solids up to 10 mm free passage
- Elimination of flooding in buildings
- Mobile use in narrow chambers min. 40 x 50 cm

ADVANTAGES

- Discharge: 1 1/2" vertical
- Emerged operation due to motor cooling (S1)
- Replaceable moisture sealed cable inlet



! TIPS

- In combination with a C-hose (coupling and hose in accessories) the Multidrain pumps are excellent helpers in case of floods.
- The intermediate space around the cooling jacket can easily be cleaned or freed form sediments through the discharge from above.

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
Multidrain UV 305-1	1½"	8.5	21.0	1.15
Multidrain UV 305-3	1½"	9.0	22.0	1.15
Multidrain UV 305-1 S	1½"	8.5	21.0	1.15
Multidrain UV 305-3 S	1½"	9.0	22.0	1.15
Multidrain UV 310-1	1½"	10.0	24.5	1.30
Multidrain UV 310-3	1½"	10.0	24.5	1.35
Multidrain UV 310-1 S	1½"	10.0	24.5	1.30
Multidrain UV 310-3 S	1½"	10.0	24.5	1.35
Multidrain UV 315-1	1½"	13.5	28.0	1.83
Multidrain UV 315-3	1½"	13.5	29.0	1.85
Multidrain UV 315-1 S	1½"	13.5	28.0	1.83
Multidrain UV 315-3 S	1½"	13.5	29.0	1.85

S with built-in level control

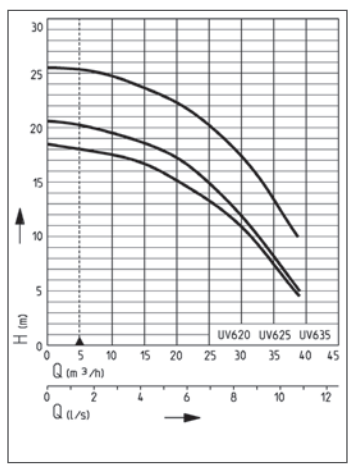
MULTIDRAIN UV 600
SUBMERSIBLE DRAINAGE PUMPS

APPLICATIONS

- Sewage and ground water with solids up to 10 mm free passage
- Elimination of flooding in buildings
- Useable in skyscapers, shopping centers or underground car parks
- Fixed installation with an guide rail system GR50

ADVANTAGES

- High delivery head
- Discharge: 2" vertical or horizontal
- Automatic self venting
- Emerged operation due to motor cooling (S1)
- Replaceable moisture sealed cable inlet



! TIPS

- In combination with a C-hose (coupling and hose in accessories) the Multidrain pumps are excellent helpers in case of floods.
- The intermediate space around the cooling jacket can easily be cleaned or freed form sediments through the discharge from above.
- When permanently installed with the guide rail system GR 50, the pumps can be easily removed for maintenance at any time.

Type	Discharge branch	Hmax (m)	Qmax (m^3/h)	P1 (kW)
MULTIDRAIN UV 620-1	2"	18.5	36	2.40
MULTIDRAIN UV 620-1 S	2	18.5	36	2.40
MULTIDRAIN UV 620-3	2	18.5	37	2.38
MULTIDRAIN UV 620-3 S	2	18.5	37	2.38
MULTIDRAIN UV 625-3	2	20.5	38	2.88
MULTIDRAIN UV 625-3 S	2	20.5	38	2.88
MULTIDRAIN UV 635-3	2	25.5	39	3.70
MULTIDRAIN UV 635-3 S	2	25.5	39	3.70

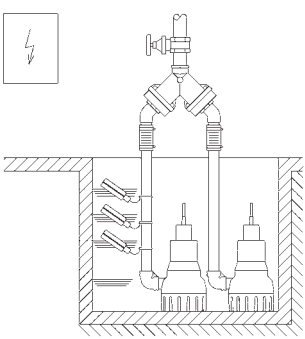
S with built-in level control

INSTALLATION AND ACCESSORIES

1. GUIDE RAIL SYSTEM

- This simplifies any future maintenance work, regardless of the depth of the sump.
- No loosening of existing connections necessary, no need for extensive resealing of screw connections during recommissioning.
- During a pump fault or pumping station incident, there is no need to use other pumps to laboriously empty the sump. The faulty pump can simply be lifted out of the sump.
- This saves both time and money on maintenance.

Duplex unit



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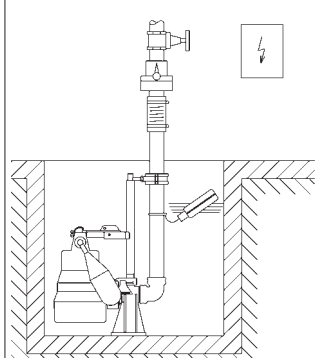
Single unit with guide rail system



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2. ALARM SYSTEM

- The use of an alarm system is particularly recommended in small pump sumps which offer very little storage volume in the event of an emergency.
- If a washing machine is connected, the alarm system with its integrated washing machine stop mechanism ensures that the washing machine is switched off in the event of a pump fault, thereby preventing any flooding due to water that continues to flow.
- The alarm can be transmitted to any location through a potential-free contact, and in conjunction with a rechargeable battery that can be added at any time, it even works during a power cut.

3. SWING-TYPE CHECK VALVE

- Without the swing-type check valve, the content of the pressure pipe is inadvertently discharged into the sump after at the end of every pumping cycle until the backpressure level is reached. This leads to unnecessary wear and results in a shorter pump lifetime, due to the fact that the pump starts up more frequently.
- The swing-type check valve reduces the residual water volume in the tank.
- The swing-type check valve supplied, which is for fitting to the discharge branch of the U3K/U5K is only expedient in portable use. If it is used in stationary applications, the pressure pipe empties when the pump is dismantled. In this case, the use of a fixed swing-type check valve is strongly recommended.

4. SPECIAL FLOAT SYSTEM

- The special float switch for low water levels is used to reduce the residual volume of wastewater collecting in the pump sump, where it tends to develop odours.
- The special float switch for narrow sumps makes installation possible in constricted sump sizes of 30 x 30 cm (U3, U5, U6) and above.

PLANCOFIX | PLANCOFIX PLUS
FLOOR DRAINAGE PUMPS

APPLICATIONS

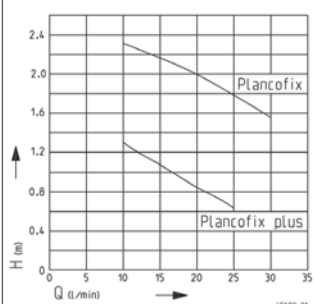
- Drainage of floor level or low entry showers where gravity drainage is not possible
- Installation either as a floor drain in the shower or adjacent to the shower with a side inlet
- Installation depth: Plancofix 10,5 cm Plancofix Plus 9 cm
- The Plancofix can not be used for backflow prevention; it is **not** a lifting plant as defined by EN 12050-2.

ADVANTAGES

- VDE approved
- Seal collar for creating a thin bed seal integrated in the top of the tank
- Easy cleaning and maintenance
- Drain with either tiled or stainless steel finish
- Plancofix Plus: < 25 dB(A) fulfils the increased sound-protection according DIN 4109
- Secondary drain as an option

Plancofix

Plancofix / Plancofix Plus



! TIPS

- The finish of the floor drain can also be changed after it has been installed. Simply turn the tiled reversible cover over and exchange the tiled finish for the stainless steel finish.
- The electronic connection must be carried out in compliance with the relevant standards and regulations of the country of installation (e.g. VDE 0100 in Germany).

Video Plancofix

Video Plancofix Plus

Dimensions (H x B x T	Installation depth	Performance	Cable
124 x 340 x 340 mm	10.5 cm	65 Watt	5 m with open cable
103 x 352 x 352 mm	9 cm with insulation tray	30 Watt	5 m with open cable

PLANCOFIX LINE
FLOOR DRAINAGE PUMP

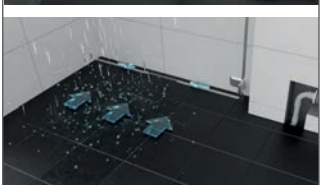
APPLICATIONS

- Drainage of floor level or low entry showers where gravity drainage is not possible
- With integrated linear shower drain
- The tiles only have to be laid in one direction directly to the shower channel with the usual gradient.

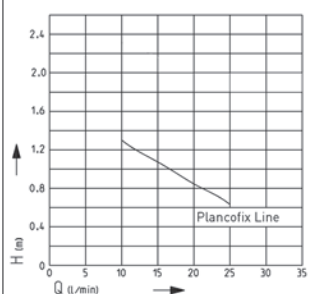
ADVANTAGES

- Modern bathroom design with line drainage
- Installation depth 9 cm
- Sealing fleece according DIN 18534:
  leak tightness class W3-I
  tear strength class R3-I
- Shower channel can be shortened individually
- Quiet operation:
  < 25 dB(A) fulfils the increased soundprotection according DIN 4109
- VDE approved

Plancofix Line



Plancofix Line

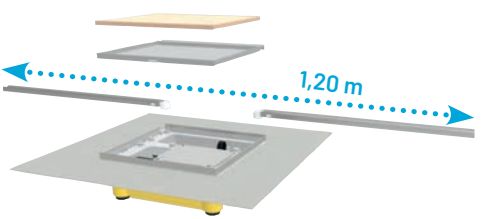


! TIPS

› During the installation, the secondary drainage can be activated by drilling holes (Ø 5 mm) in the markings on the edge above the sealing membrane. This allows a drainage in case of leaking joints.

› In a horizontal pressure pipeline, a bank elbow of min. 25 cm must be installed before the downpipe connection. To avoid the siphon effect, it must be extended at the high point to the following larger pipe dimension.

› The cleaning is easy and does not require any chemicals. Let water run into the tank and clean the bottom with a brush or similar. **Important**: Do **not** bend the float upwards



Dimensions (H x W x D)	Installation depth	Performanc	Cable
103 x 352 x 352 mm	9 cm with insulation tray	30 Watt	5 m with open cable end

HEBEFIX
ABOVE FLOOR TANK

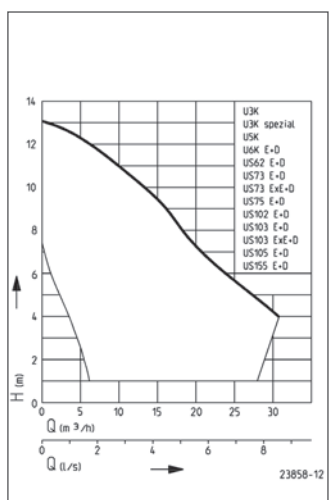
APPLICATIONS

- Single and duplex units for domestic or commercial wastewater (non-faecal)
- For later addition of drainage objects
- Use above or below the backpressure level
- Hebefix Pro, specially for aggressive media, such as water from water softening plants or condensing boilers

ADVANTAGES

- No damage to the floor plate of the building
- Combination with pre-wall installation system possible (Hebefix Pro)
- Low installation level when connecting a shower tray
- Integrated alarm unit for high-water alarms (Hebefix Pro)
- Hot water version Hebefix 100 H up to 80 °C

Hebefix Pro



! TIPS

- For modern bathroom design, the use of Hebefix Mini/Hebefix Pro is recommended. This is concealed within a pre-wall system. Important: An inspection opening must be provided. The Hebefix can also be fitted directly under a washbasin.
- The plug on the pump must NOT be cut off! The **cable gland** on the tank has a split seal.
- If single unit select a pump with built-in level control.

Video Hebefix Pro

- Change the **activated carbon filter** according to your individual needs, but at least once a year.

Type	Single units			Single/duplex unit	Single units	
	Hebefix	Hebefix 100	Hebefix 100 H	Hebefix 200	Hebefix Mini	Hebefix Pro
U3	X	X		X	incl. Pumpe	
U3 spezial	X	X		X		
U5	X	X		X		
U6		X		X		
US 62		X		X		
US 73		X		X		
US 102		X		X		
US 103		X		X		
US 73+103 Ex				X		
US 73+103 H			X			
US 75-155				X		

BAUFIX
UNDERFLOOR SUMP

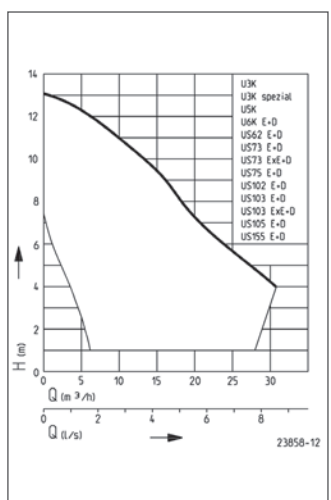
APPLICATIONS

- Single and duplex units for domestic or commercial wastewater (non-faecal)
- Baufix 200 duplex unit also for use in public amenities
- For use below the backpressure level
- Installation in areas with high groundwater levels is possible thanks to a groundwater seal (accessory - for Baufix 100/200)
- Guide rail systems possible (for Baufix 100 200)

ADVANTAGES

- Odour-free floor drain
- "Invisible" if tileable cover plate is used (Baufix 100/Baufix 200-32)
- Space-saving since underfloor
- Smooth sump material reduces deposits
- Suitable pumps can be chosen for the performance you require
- Alarm system possible (with washing machine stop mechanism)

Baufix 100



! TIPS

- A wire in the **vent pipe** of the sump makes it easier to insert the pump cable later.
- In groundwater endangered areas only for use in conjunction with groundwater seal (Baufix 100/200).
- A further level adjustment can be achieved with Baufix 100/200-32 using **DN 300 PVC pipes**. **Attention**: Pumps must remain accessible for maintenance purposes!
- If single unit select a pump with built-in level control

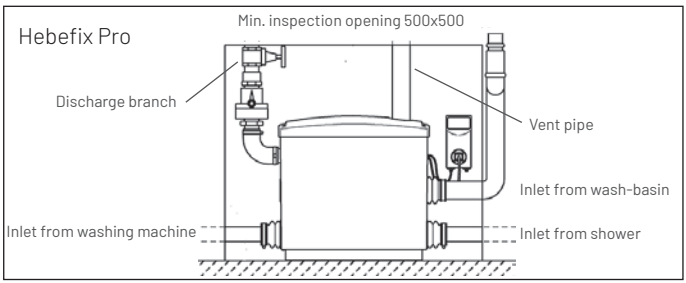
Animation Baufix

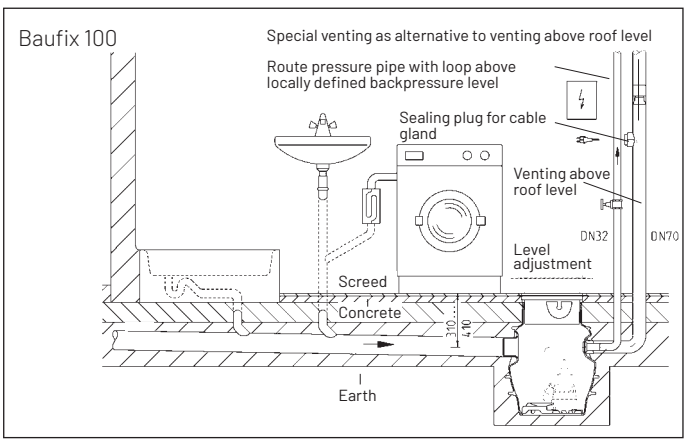
Type	Single units		Single/duplex units
	Baufix 50	Baufix 100	Baufix 200
U3	X	X	X
U3 spezial	X	X	X
U5		X	X
U6		X	X
US 62		X	X
US 73		X	X
US 102		X	X
US 103		X	X
US 73+103 Ex		X	X
US 75-155			X

INSTALLATION AND ACCESSORIES

1. VENTING IN SPECIAL SITUATIONS

› Venting above the roof level can be a considerable problem, particularly when a wastewater lifting station is added to an existing site. An easy solution to this is the use of an activated carbon filter from Jung Pumpen. This is because venting of wastewater lifting station is also permitted into the room in which they are located, provided that the vented air is odour-free. The activated carbon filter is included in the scope of delivery of the Hebefix tanks. For Baufix products, a special ventilation insert can be supplied on request.





2. SPECIAL FLOAT SWITCH

- When a shower is connected to the Hebefix, a special float switch for low switching heights should be used for reducing the height at which the pump starts up. A backpressure into the shower tray (fitted at a minimum installation height of 130 mm) is effectively prevented as a result. The Hebefix Pro is supplied as standard with a special float switch system which allows the minimum installation height of the shower tray to be reduced to 110 mm.
- Where other tanks are used, such as for wastewater that tends to develop odours, it is recommended that the switching heights, and so also the residual water volume in the tank, are reduced.
- With the Baufix 50, the special float switch is included in the supply package.

3. TILEABLE COVER PLATE

- The use of underfloor sumps offers not just practical advantages but also particularly enhances the visual appearance. When used with the tileable cover plate, it is not just that the sumps, inlet pipes and pump assembly "disappear" under the floor plate, but the cover plate also blends exceptionally well with the existing tiling.

4. INSTALLATION FRAME (ON SITE) FOR HEBEFIX PRO FOR INSPECTION OPENING

- An installation frame (on site) for creating a maintenance opening makes subsequent maintenance work on the Hebefix Pro considerably easier. This can be flexibly adapted to the surrounding tiling. This should be fitted as soon as the lifting station has been installed in the pre-wall system. In the past, installation systems have been known to be boarded up while other work was carried out at the same time, leaving the Hebefix Pro completely inaccessible.

WCFIX
SEWAGE LIFTING STATIONS

APPLICATIONS
For restricted use:

- Small circle of users
- Above and below the back-pressure level
- For connecting:
  1 WC, 1 bidet,
  1 washbasin, 1 shower
- Appliance and drainage objects can be used in the same room
- Additional WC must be positioned above backpressure level

ADVANTAGES

- Inexpensive solution for new builds and renovation projects
- From a flush volume of 6l
- Safe pumping
- Easy maintenance and elimination of unsuitable disposal matter
- Runtime monitoring with acoustic alarm and potential-free contact (WCfix Plus)
- Additional low level inlets

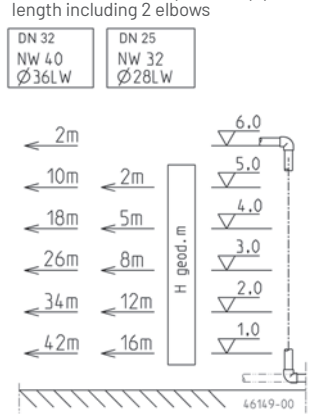
WCfix Plus

Pre-wall installation

Direct connection

WCfix plus

Maximum horizontal pressure pipe length including 2 elbows



! TIPS

- If installed above the back-pressure level, a **stagnation loop** must be installed, because the switching point of the pumping station could not otherwise be attained.
- Use the maximum **flush volume** in conjunction with a WCfix. This creates ideal conditions for reliable operation and reduces deposits in the tank.
- **Unsuitable disposal matter** is easy to remove after the unit has been installed, without the need to reach into the collection chamber: With the mains cable unplugged, rotate the slotted motor shaft in the opposite direction to the running direction.

Animation
WCfix Plus

In many cases, this is sufficient to remove the obstruction. In addition, it is possible to remove the obstruction with a drill or a drain hose in any emergency.

Type	Hmax (m)	Qmax (l/min)	P1 (kW)
WCfix Plus	8.0	208	0.720
WCfix 260	4.0	133	0.40

COMPLI
SEWAGE LIFTING STATIONS

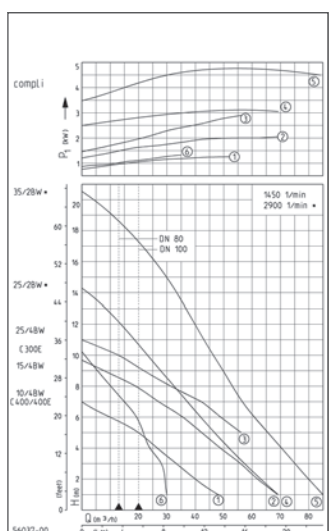
APPLICATIONS

- Basement flats (Compli 300 E single unit)
- Private dwellings (Compli 400/500 single unit)

ADVANTAGES

- Supplied ready to plug in
- Completely submersible due to moisture sealed cable inlet
- Compact dimensions
- Inlet optimised tank floor
- Alarm system supplied as standard
- The inlet height of the Compli 400 is variable (180/250 mm)

Compli



! TIPS

- First of all, assemble the **swing-type check valve** and then the sluice valve on the discharge branch of the lifting station, before you arrange the ready assembled DN 80/100 transition piece with the elastic connection upstream of the pressure pipe that follows.
- In three-phase systems, check the direction of rotation of the pumps. If the direction of rotation is wrong, this will be displayed by a control diode on the control unit circuit board.

Video Compli

	Type	Hmax (m)	Qmax (m^3/h)	P1 (kW)
Single unit	Compli 300 E	10.5	29	1.25
	Compli 400 / 400 E	7.0	48	1.25 /1.55
	Compli 510/4 BW	7.0	52	1.30
	Compli 515/4 BW	9.5	69	2.20
	Compli 525/4 BW	11.0	56	3.00
	Compli 525/2 BW	13.5	69	3.20
	Compli 535/2 BW	20.0	85	4.00

COMPLI
SEWAGE LIFTING STATIONS

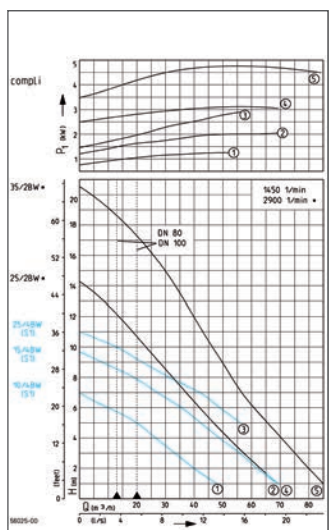
APPLICATIONS

- Blocks of flats
- Commercial/municipal uses
- The S1 models for public indoor swimming pools, hotel facilities with swimming pools or in the event of incalculable wastewater quantities
- For further applications that require more storage volume and delivery rate, we recommend Compli 1200, Compli 1500/2500 or the stainless steel systems

ADVANTAGES

- Supplied ready to plug in
- Completely submersible due to moisture sealed cable inlet
- Compact dimensions
- Inlet optimised tank floor
- Alarm system supplied as standard
- The inlet height of the Compli 400 is variable (180/250 mm)

Compli 1200



! TIPS

- First of all, assemble the **swing-type check valve** and then the sluice valve on the discharge branch of the lifting station, before you arrange the ready assembled DN 80/100 transition piece with the elastic connection upstream of the pressure pipe that follows.
- In three-phase systems, check the direction of rotation of the pumps. If the direction of rotation is wrong, this will be displayed by a control diode on the control unit circuit board.

- S1 operation: Max. Media and surrounding temperature 30 °C.

	Type	Hmax (m)	Qmax (m^3/h)	P1 (kW)
Duplex unit	Compli 1010/4 E (HL)	7.0	52	1.55
	Compli 1010/4 (HL)	7.0	52	1.30
	Compli 1015/4 (HL)	9.5	69	2.20
	Compli 1025/4 (HL)	11.0	56	3.00
	Compli 1025/2 (HL)	13.5	69	3.20
	Compli 1035/2 (HL)	20.0	85	4.00
S1-model	Compli 1010/4 S1 HL	7.0	52	1.30
	Compli 1015/4 S1 HL	9.5	69	2.20
	Compli 1025/4 S1 HL	11.0	56	3.00

Compi 1000 are also available with microprocessor control unit (HL).

COMPLI

SEWAGE LIFTING STATION WITH CUTTING SYSTEM

APPLICATIONS

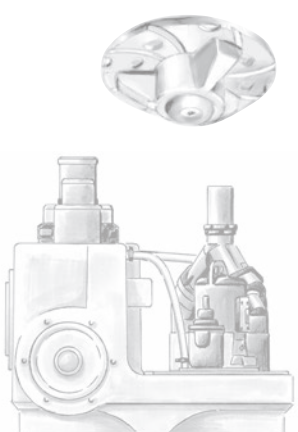
Wastewater disposal of special facilities, such as

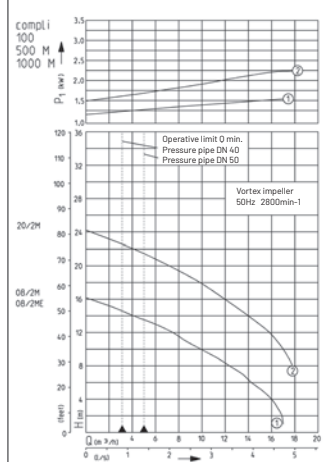
- Mobile sanitary facilities
- Weekend and holiday homes
- Houseboats
- Circus trucks
- Commercial/municipal uses, such as toilets in production halls (Compli 1000 duplex units)

ADVANTAGES

- Ready to plug in
- Floodproof
- Inlet clamping flange
- Versatile connection options
- Small sized pressure pipe
- High delivery head
- PE tank
- MultiCut cutting system

Compli





! TIPS

› The MultiCut cutting system allows the wastewater to be pumped through long and small diameter pressure pipes to the nearest sewer. The pressure pipe can be routed to follow the gradient of the site. This form of wastewater disposal is frequently more economical than discharging it through gravity pipes. The exterior MultiCut cutting system guarantees maximum operational reliability combined with excellent drainage characteristics.

Video
Cutting system
MultiCut

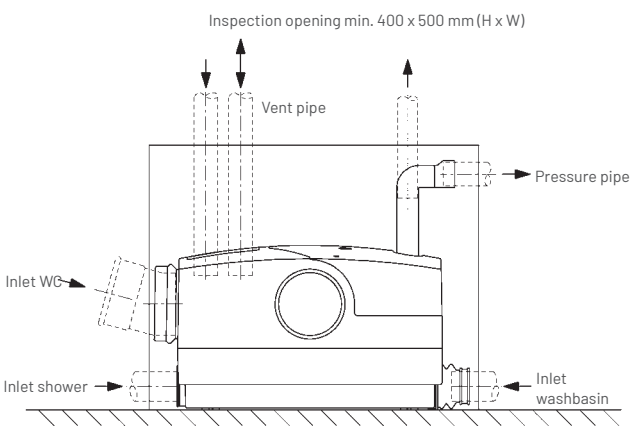
	Type	Hmax (m)	Qmax (m^3/h)	P1 (kW)
Single unit	Compli 108/2 M	16	17	1.65
	Compli 108/2 ME	16	17	1.70
	Compli 120/2 M	24	18	2.30
	Compli 508/2 M	16	17	1.65
	Compli 508/2 ME	16	17	1.70
	Compli 520/2 M	24	18	2.30
Duplex unit	Compli 1008/2 M	16	17	1.65
	Compli 1008/2 ME	16	17	1.70
	Compli 1020/2 M	24	18	2.60

INSTALLATION AND ACCESSORIES

INSTALLATION KIT FOR INSPECTION OPENING

› A decisive aid for later maintenance work on the WCfix Plus is the mounting frame (on site) for fitting an inspection opening. This can be flexibly adapted to the surrounding tiling. This should be fitted as soon as the lifting station has been installed in the pre-wall system. In the past, installation systems have been known to be boarded up while other work was carried out at the same time, leaving the WCfix Plus completely inaccessible.

WCfix Plus



1. INLET SLUICE VALVE

› The sluice valve in the inlet of a lifting station protects you while carrying out any work. In blocks of flats, in particular, it may not be possible to contact all users who are connected to the drainage system early enough, and this could result in problems if the unit has not been properly disconnected from the system. Our lightweight and ready to fit PVC inlet sluice valve can be fitted in the inlet even if space is restricted.

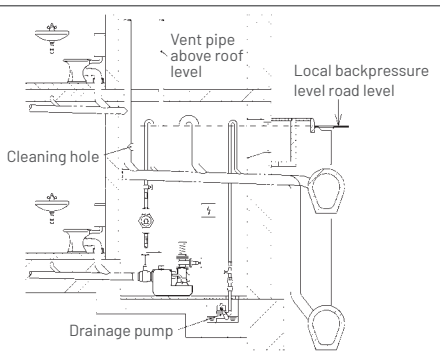
2. HAND DIAPHRAGM PUMP

› In the event of a power cut or pump fault, the storage volume of a lifting station tank fills up rapidly in an emergency. A hand diaphragm pump can be a useful aid for your customers until the service engineer arrives. Be sure to fit a hand diaphragm pump. The pump needs to be activated regularly to ensure that the pump has a long service life.

3. RECHARGEABLE BATTERY FOR MAINS-INDEPENDENT ALARM

› Lifting stations in the compli range are supplied with an alarm system as a standard feature. Enhance the safety of the system. With just one single rechargeable battery, the alarm works even independently of the mains power supply. The charging circuit is already integrated in the control unit.

Compli



K2 PLUS | HEBEFIX + U3K SPEZIAL | HEBEFIX PRO
SPECIAL PUMPS

APPLICATIONS K2 PLUS

- In condensing boiler technology, up to 100 kW boiler capacity
- In refrigeration and air-conditioning technology

APPLICATIONS HEBEFIX + U3KS SPEZIAL, HEBEFIX PRO INCL. PUMP

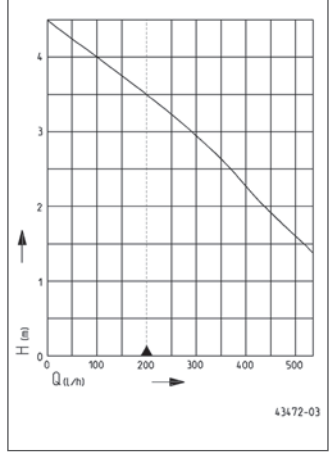
- For large boiler capacities
- To cope with additional grey water sources
- Also suitable for aggressive media (e.g. condensate, saline media)

ADVANTAGES

- Very quiet running
- For wall and floor mounting
- Installation materials included in supply package
- Runtime monitoring with acoustic alarm and potential-free contact (K2 Plus)
- Test run button (K2 Plus)
- Indicator light display for operating or fault (K2 Plus)
- With integrated backflow prevention valve (K2 Plus)
- Alarm unit for level-dependent alarm (Hebefix Pro)

K2 Plus

K2 Plus



! TIPS

- The K2 Plus is resistant to a **pH value** ≥ 2.7. The pH value of condensate from oil or gas boilers can be below this operating limit (ATV-DVWK-A 251, table B1). Failure to maintain or inspect neutralising systems or wrongly adjusted burners can result in the pH value being below 2.7. Instruct your customers about these points! Regular maintenance and inspections are essential in this case.
- If the maximum **inlet temperature** of 40 °C is exceeded, cooling can be achieved by laying the inlet pipe in coils.
- Always use an alarm system!

Video K2 Plus

Type	Hmax (m)	Qmax (m^3/h)	Qmax (l/h)	P1 (kW)
K2 Plus	4.5	0.53	520	0.065
U3KS Spezial	7.0	6.5	6500	0.32
Hebefix Pro	7.0	6.5	6500	0.32

SAFETY THROUGH ALARM SYSTEMS

Alarm unit	Code no.	Usable with battery Code no. JP44850	pot. contact	Hebefix mini	Hebefix
Alarm unit AG3 with submersible ball contact switch and potential-free contact (mains-dependent) and 3 m cable	JP44891	●	●		
Alarm unit AG10, ditto but with 9.5 m cable	JP44892	●	●		
Alarm unit AGR with reed switch with 3 m cable	JP44893	●	●	●	●
Alarm unit washing machine stop AW 3 including submersible ball contact switch KT with 3 m cable	JP44895	●			
Alarm unit washing machine stop AWR 3 including reed switch and 3 m cable	J44897	●			●
Alarm unit washing machine stop AWO	JP44899	●	For parallel connection to an All appliances connected to it		
Alarm unit AGE with special electrode, 1.5 m cable	JP044894	●	Alarm system with special and above, independently		

Alarm unit

Hebefix 100	Hebefix 100 H	Hebefix 200 (Single unit)	Baufix 50	Baufix 100	Baufix 200 (Single unit)	on-site sump (Single unit)
		●		●	●	●
		●		●	●	●
●	●		●			
		●		●	●	●
●	●		●			

alarm unit AW (R) when several washing machines or dishwashers are connected.
will be switched off when the alarm is triggered.

electrode circuit for automatically reporting water levels of approx. 1 mm above floor level of the installation of a pump, such as on the ground floor or on the top floor.

Alarm unit washing maschine stop

BACKPRESSURE PREVENTION TO EN 12056

HOW DOES BACKPRESSURE OCCUR?

Drainpipes from drainage objects in buildings form an interconnected pipe system through the fact that they are connected to the sewer. If wastewater backs up in the sewer, it also pushes back into the domestic drainpipes connected to it, and causes the water level there to rise up not further than to the upper edge of the road. If the water continues to rise, it then escapes into the street. The upper edge of the road is generally regarded as the backpressure level. Deviating provisions may be found in local bye-laws.

POSSIBLE CAUSES OF BACKPRESSURE

- Heavy or torrential rainfall may cause backpressure in the sewer.
- Backpressure may also be due to burst pipes or damaged sewers.
- Backpressure due to pump failure if intermediate pumping stations are used.
- Backpressure through unplanned discharges, such as when the fire brigade is in action or sewers are cleaned, or more pipes are connected to the sewage system than originally planned.
- Backpressure through blocking off or diverting the sewer for repair work.
- Backpressure due to obstructions or pipe constrictions.

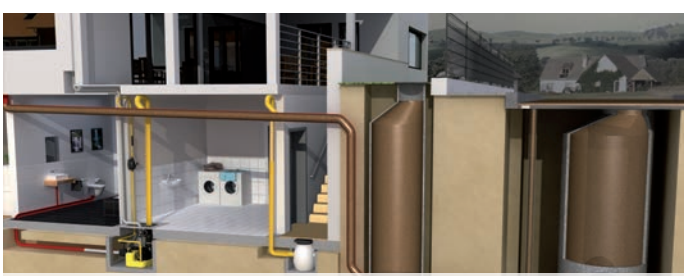
INFORMATION ABOUT BACKPRESSURE PREVENTION

- Preventing backpressure at drainage points below the backpressure level is not a discretionary provision but is mandatory.
- Backpressure prevention must implemented with an automatic sewage lifting station. In exceptional circumstances, anti-flooding devices are admissible.
- Only the use of a lifting station with a backpressure loop above the backpressure level provides security against backpressure.
- Anti-flooding valves are admissible only in exceptional circumstances.

APPLICATIONS FOR A LIFTING STATION

- For example, in cellar rooms where high-value commodities are stored.
- If the cellar is used as living space (basement flat).
- When it is impossible to do without drains of any kind during the occurrence of backpressure in the sewer.
- In the event of overflows of rainwater storage tanks that are discharged into a combined wastewater sewer (DIN 1989).

Without backpressure prevention
(see page 75 for animations in the PumpSizer app)



With backpressure prevention (lifting station)

The microsite on this topic **www.backpressure.net**

STANDARDS CONCERNING LIFTING STATIONS

Gravity drainage 13
Drainage object above the back-pressure level by gravity (EN 12056-1, para. 4.2)

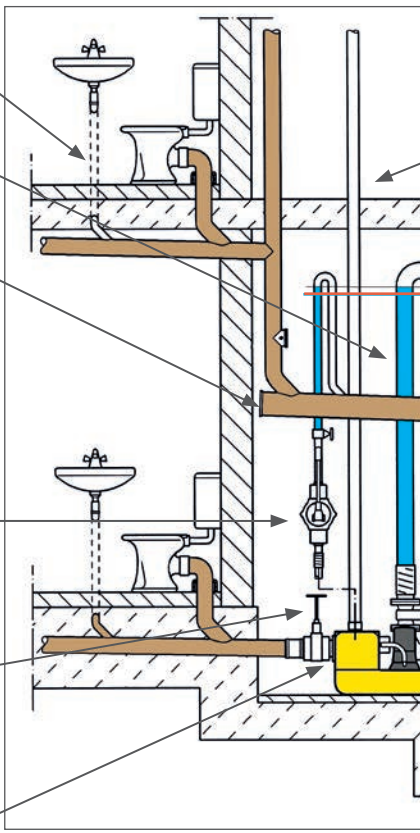
Pressure line 3
(EN 12056-4, para. 5.2)

Filling degree 5
Pipeline (DIN 1986-100, para. 14.1.5.2)

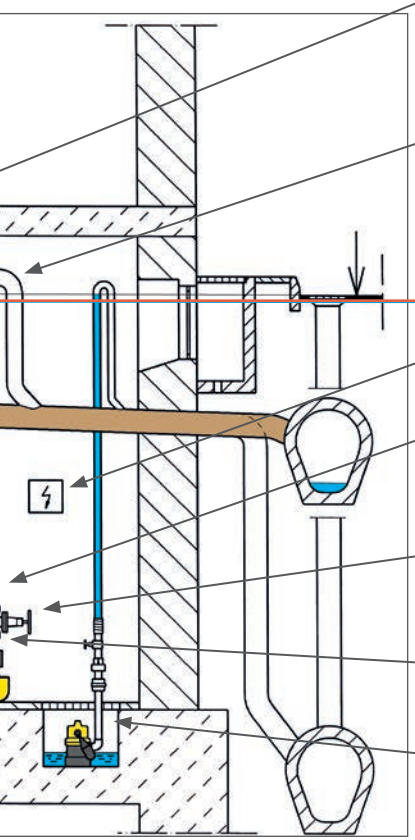
Free space 1
Lifting station have to be set up 60 cm freestanding (EN 12056-4, para. 5.1)

Hand diaphragm 6
recommendation

Sluice valve DN 100 11
(EN 12056-4, para. 5.2)



Mounting / Buoyancy protection 2
(EN 12056-4, Abs. 5.1 / 12050-1, para. 4.6)



Ventilation 7
Vent pipe DN 70 above roof level, e. g. HT-pipe
(EN 12056-4, para. 5.3)

Backpressure loop 10
Elbow above backflow level
(EN 12056-4, para. 5.2)

BACKFLOW LEVEL

Control unit 14
(EN 12056-4, para. 5.5)

Elastic connection 4
(EN 12056-4, para. 5.1)

Stop valve 12
DN 80 (EN 12056-4, para. 5.2)

Swing-type check valve 9
DN 80 (EN 12056-4, para. 5.2)

Pump sump 8
is mandatory
(EN 12056-4, para. 5.1)

STANDARDS CONCERNING LIFTING STATIONS

WORKSPACE 1

› 60 cm workspace adjacent to and above all components to be operated, for the purpose of carrying out maintenance work.

MOUNTING/BUOYANCY PROTECTION 2

› The collecting tank for faecal wastewater must not be connected to the building structure - this means a fixed connection, e.g. the insertion into the concrete basement of the building. Correspondingly an appropriate free installation has to be selected, however, the tank must be secured against buoyancy. The necessary accessories are usually in the scope of supply of the unit.

PRESSURE LINE 3

› The pressure pipework must withstand 1.5 times the maximum pump pressure of the unit.

› Recommendation: Use only piping materials and fasteners approved by the manufacturers for this purpose. The pipe connections must be secured against thrust!

ELASTIC CONNECTION 4

› All connections on the lifting plant must be flexible connections. In compli lifting stations, this is achieved in the inlet pipe with an inlet clamping flange and, in the pressure pipe, with the flexible connection supplied, which is attached above the swing-type check valve and the sluice valve.

FILLING DEGREE 5

› Usually with partially filled pipelines rated at 50%.

› After connection of the lifting unit up to 70% filling level possible.

HAND DIAPHRAGM PUMP 6

- In the event of a power cut or pump fault, the storage volume of a lifting station tank fills up rapidly in an emergency. To bridge the time until a service engineer arrives, the hand diaphragm pump can provide valuable assistance.
- Please note that the hand diaphragm needs to be activated from time to time, for example during maintenance work, to ensure that the pump will give many years of service.
- Not an essential accessory in terms of the standard.

VENTILATION 7

- For volume replacement (aerating and venting the tank).
- Lifting plants for wastewater containing faecal matter according to EN 12050-1 must always be vented above the roof level. Route the vent pipe separately, or take it above the roof and attach it at an angle of 45° to a ventilated downpipe that is higher than the highest connecting pipe.
- Lifting plants for faecal-free wastewater according to EN 12050-2 / Lifting plants for limited application according to EN 12050-3 can be vented into the installation room. Odour reduction: with activated carbon filters (accessory).
- Vent valves are not permissible for lifting plants for wastewater containing faecal matter.

PUMP SUMP 8

- This is used to drain rooms and prevent flooding such as can occur when piping is damaged.
- A permanently installed pump is not required.

SWING-TYPE CHECK VALVE 9

- This is essential when installing a lifting plant.

STANDARDS CONCERNING LIFTING STATIONS

BACKFLOW LOOP 10

- Physical means of providing safety against backflow from the public sewer system.
- Where backflow occurs in the sewer, water tends to initially escape through the manhole cover rather than flow into the cellar.
- The combination of a lifting plant and a backpressure loop allows drainage objects located below the backflow level (generally the top edge of the road) to be used unrestrictedly, and enables the wastewater to be discharged even when backpressure occurs.

SLUICE VALVE IN THE INLET 11

- This is for protecting maintenance personnel while working.
- In blocks of flats, in particular, it may not be possible to contact all users who are connected to the drainage system early enough, and this could result in problems if the unit has not been properly disconnected from the system.
- If space is restricted, the new lightweight PVC sluice gate from Jung Pumpen is ready to install and can be fitted in the inlet pipe.

STOP VALVE IN THE DISCHARGE BRANCH 12

- Mandatory accessory in lifting plants for wastewater containing faecal matter according to EN 12050-1.
- Enables the lifting plant to be disconnected from the system during maintenance work.
- Fitting a sluice valve in the pressure pipe can only be dispensed with in lifting plants complying with EN 12050-2/12050-3 if the diameter of the pressure pipe is < DN 80 and this has an extractor device or some other means of evacuation. The useable volume of the lifting plant must be large enough to take up all the wastewater from the pressure pipe.

GRAVITY DRAINAGE 13

- Do not create dependence on machinery unless it is absolutely essential.
- Exceptions to this are only permitted in absolutely necessary cases.

CONTROL UNIT 14

- Installation in dry, well ventilated rooms.
- Flood-proof installation.
- Install fault signaling device so that it is signaled in each connected residential unit.

MAINTENANCE ACCORDING EN 12056-4

! TIPS

- According to EN 12056-4, lifting plant must be maintained at regular intervals. Recommend therefore that your customers conclude a maintenance contract! In certain circumstances, proof that maintenance has been carried out may be required by the relevant building insurance in the event of a claim.
- Depending upon the nature of the wastewater, it may be necessary to shorten the maintenance intervals specified.
- Keep a record of commissioning and maintenance work. Draw attention in writing to any repair work necessary, in the event that this work is postponed till later at the customer's request.

MAINTENANCE WORK

- Check the connections and joints
- Activate the sluice valves
- Open and close the backflow preventer
- Clean and check the pumping equipment and the attached piping
- Check the oil level if an oil chamber is available
- Internal cleaning of the tank
- Inspect the electrical section of the lifting station
- Inspect the collecting tank
- Flush the system through with water once every 2 years

MAINTENANCE INTERVALS

- Every 3 months for units on commercial premises
- Every 6 months for units in blocks of flats
- Once a year for units in individual private dwellings

RECOMMISSIONING

- Trial run with water with two switching cycles
- Check the electric fuses
- Check the direction of rotation of the motor
- Check the sluice valve (open position/activation/leaktightness)
- Check the leaktightness of the unit, fittings and piping
- Check the operating voltage and frequency
- Inspect backflow preventer
- Check the fault indicating device
- Check that the pressure pipe is securely attached
- Check the motor protection switch
- Check the oil level (if oil chamber available)
- Check the indicator lamps, gauges and meters
- Functional check of hand diaphragm pump

ELECTRICITY COSTS

SAMPLE CALCULATIONS FOR VARIOUS TYPES OF UNITS

Type of pump or unit
Drainage capacity (typical valves)
Delivery head [m]
Flow rate [m^3/h]
Motor rating [kW] P1
Motor rating [kW] P2
Quantity per year/resident [m^3/a]
Running time per year/resident [h]
Energy requirements per year [kWh]
Assumed price of electricity [€/kWh] *
Electricity costs per year and resident [€]
Pumping costs per m^3 [€]
Operation of control unit [kW]
Electricity costs for control unit per year (fixed)
Total electricity costs per year and resident [€]

* assumed values

Compli 400	WCfix 260	U3KS
100 l* (E x d)	30 l* (E x d)	20 l* (E x d)
complete residential	additional bathroom	e.g. washing maschine/ sink
2.5	2.5	2.5
35	6.4	5
1.25	0.4	0.32
0.85	0.25	0.20
36.5	10.95	7.3
1.04	1.71	1.46
1.3	0.684	0.4672
0.38	0.38	0.38
0.49	0.26	0.18
0.01	0.02	0.02
8.4	8.42	none
3.19	3.20	none
3.69€	**3.46 €**	**0.18 €**

CONCISE GLOSSARY OF TERMS

› Abrasion:	Abrasion or grinding down of materials through solids contained in the effluent or water, such as in piping, pumps or centrifuges
› Wastewater:	Water that has been contaminated, and whose natural properties have therefore been altered, by domestic, commercial, industrial, agricultural and other uses This also includes precipitation water runoff from built-up areas. A distinction is made, for example, between effluent, rainwater, infiltration water, mixed water, cooling water and municipal wastewater
› Activated carbon:	The usual means used to absorb odorants and flavourings and organic substances in drinking water treatment. It can be used as powdered activated carbon before a filter, or as granular activated carbon on or inside filters. Spent granular carbon can be regenerated and reused
› Brackish water:	Mixture of saline and freshwater
› Raw water:	Water with different quality characteristics, which may include drinking water quality, serving commercial, industrial, agricultural or similar purposes
› Free passage:	The free passage of the pump is the diameter up to which solid particles in the wastewater can be pumped
› Grey water:	Faecal-free wastewater
› Groundwater:	Underground (stagnant or running) water that fills cavities in the ground or rock contiguously. Since this forms through the seepage of rainwater runoff and flows towards surface water or occurs as spring water, it forms part of the water cycle. Normally, groundwater is free from pollutants and pathogenic bacteria, and is therefore ideal for use as drinking water
› Sewer system	Drain system for collecting and discharging wastewater (EN 16323). Effluent and rainwater runoff are discharged either separately (separate system) or together (combined system)
› Condensate:	Water that occurs through condensation during a vapour phase at a temperature below the dew point of the water
› Particle size:	Maximum diameter of the solids contained in the wastewater
› Minimum flow velocity:	The minimum flow velocity in pressure piping is 0.7 m/s and among other things prevents deposits from forming in pressure pipes

› Nominal diameter (DN):	A dimension (characteristic) for pipes and fittings which approximately corresponds to the internal diameter. DN is the international abbreviation for this (diameter nominal)
› Useable volume:	The volume pumped during a cycle of operation
› pH value:	Measure of the concentration of hydrogen ions in aqueous solutions, and so the measure of the acidity, neutrality or alkalinity of a solution. The pH scale extends from 0 to 14. Acids have a pH value of less than 7 and alkalis have a pH value greater than 7. Water in its original form has a pH value of 7 (neutral). According to the German drinking water ordinance, drinking water should not have a pH value of less than 6.5 or higher than 9.5
› Potential-free contact:	Zero-potential contact for alarm transmission
› Pump/ submersible pump:	Pump for handling water; a small-diameter centrifugal pump, using centrifugal force, with impellers and a vertically arranged shaft which is directly immersed in the pumped media
› Rainwater	Water from natural rainwater that has not been contaminated through use
› Raw efluent:	The wastewater that runs into a wastewater treatment system
› Backpressure/ backpressure prevention:	see page 60/61
› Wastewater:	Water that has been contaminated through use. A distinction is made between domestic (from kitchens, laundries, bathrooms, toilets and rooms with a similar use), commercial, industrial, agricultural and municipal (domestic and commercial) wastewater
› Blackwater:	Wastewater containing sewage
› Seepage water:	Refers to groundwater-forming water (rainwater, watercourses and bodies of water) which drains into the ground The rock zones around the seepage water are responsible for the properties (water quality) of the groundwater

APPS AS PLANNING AIDS

INFORMATION AT A GLANCE

The free **Media App** provides the sanitary and HVAC trade with a wealth of technical information about submersible drainage pumps and wastewater pumps right around the clock wherever it is needed. Besides the classic product literature like data sheets and brochures, the app also provides direct access to technical information such as operating instruction manuals and spare parts lists

IOS ANDROID

WHAT CAN IT DO?

- Online and offline access to all data
- All data can also be loaded into the app as well
- Documents can be forwarded by email
- Push message about new features
- Integrated multimedia section and much more

PUMP SELECTION AID

With the **PumpSizer App,** it is possible to identify a selection of suitable submersible drainage pumps after defining the hydraulic data, the media to be pumped and the intended installation location.

Data is entered intuitively and the results are displayed while the slider is moved.

IOS

ANDROID

WHAT CAN IT DO?

- Extensive range of property types, water types and installation locations to choose from
- Choice of objects to be drained
- Calculation of the required flow rates
- Operating point calculations
- Recommendations for pumps and much more

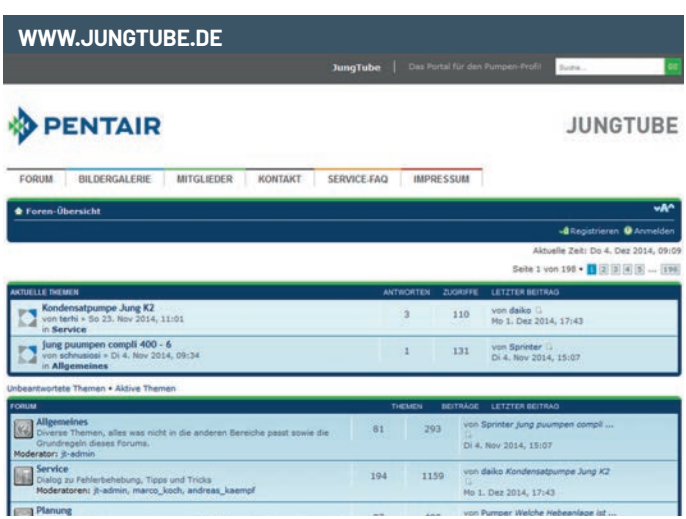
SOCIAL MEDIA CHANNELS

JUNGTUBE ONLINE FORUM

Visit our **JungTube** wastewater portal and take advantage of the practical hints and experience given by our pump professionals.

The online forum has established itself in recent years to become a platform that is used by both planners and installers as well as the customers themselves.

- Tips from pump professionals
- Building and wastewater technology
- Picture gallery with unusual and informative views of installation situations
- Frequently asked questions are answered directly as FAQs
- Presented by Jung Pumpen
- Contributions and images can be shared on Facebook, X and Google plus



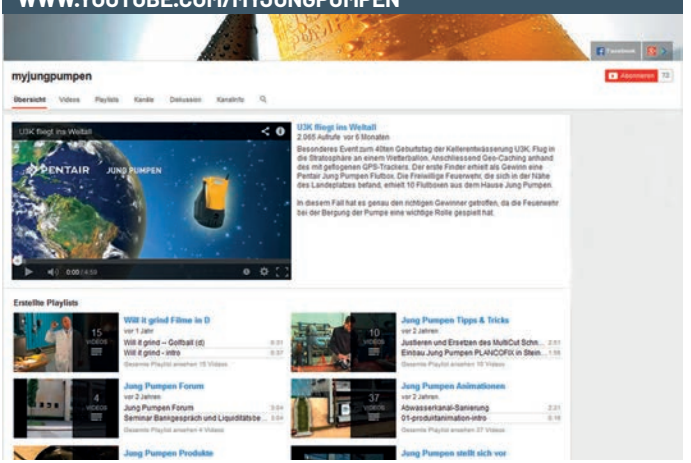
VIDEOS ON YOUTUBE

On YouTube, we also offer informative video clips on products and their installation in buildings and municipal drainage systems. Sanitary professionals as well as homeowners will find a range of video clips and 3D animations there.

In addition to product videos, there are also interesting videos on our company and videos of a variety of workshops and trade fairs.

- Product videos
- Assembly and installation videos
- 3D animations
- Videos with maintenance tips
- Videos about the company
- Videos about workshops and trade fairs

WWW.YOUTUBE.COM/MYJUNGPUMPEN



BRIEF GUIDE

Four questions up front

WHAT TO CHECK?

What media are to be discharged?

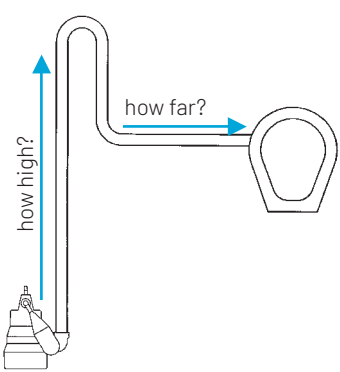
- Rainwater (temperature)
- Groundwater (chemical constituents)
- Wastewater (particle size)
- Sewage (proportion contained)

HOW MUCH?

Indicates the quantity to be discharged

- Toilets
- Sinks
- Square metres of paved area
- Bathtub
- Dishwasher
- Washing machine
- Floor drain
- etc.

WHERE TO?



WHAT WITH?

- What pump(s)?
- Which components? (control unit, tank, accessories)

PLEASE GET IN CONTACT WITH US:

ADVICE + QUOTATIONS

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